

**Work Order ID 69986**

Wednesday, May 25, 2011 10:34:53 AM

Page 1

Item ID: D205-634-041

Accept

Setup Start

Revision ID:

Stop

Item Name: Replacement Skidtube

Start Date: 5/25/2011 Start Qty: 1.00

Required Date: 6/10/2011 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:   *K*  Date: 11-05-25

Tooling:

Date:           QC:           Date:           SPC (Y/N):           Date:           

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D2580-041

Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile &amp; type labels per PPP D205-634-041

CHG004

002

N/A *[Signature]*

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

*[Signature]*11-6-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

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Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

120

0.00



Skidtubes

Memo

0.00

Skidtubes

1- Deburr ends and remove bending marks

2- Prepare tube for swaging as per QSI 002

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

B 11/06/22

1 0 BE 11/06/23

W/O:		WORK ORDER CHANGES					
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Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

0.00



Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004  
A/R□□□ Aluminum Rod

M117456

BE 11/06/23

2-Grind welds on step as per Dwg D2580

3-Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002  
and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x 17G to start  
expansion and finish with 1/2 x 18G to achieve dwg dimension.

WELDED A/R M117456 BE 11/06/23

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64",  
adjust stopper not to hit web. Debur

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

3

BE 11/06/23

150

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

S 4/06/24

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8w6c124

170

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

1 6 BL 11-7-8.

180

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

Powder Coating

START TIME:  
OVEN TEMPERATURE:  
FINISH TIME:8:00  
320 OF  
8:30

120 m 11/07/11

M117745

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
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Reference:

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Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 0 0 11/04/12

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

200

0.00



HandFinish

Hand Finishing

Memo

0.00

1-Install inserts &amp; wearplates &amp; Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R ☐ ☐ ☐ Sikaflex-291 ☐ M117516

Sikaflex expire date: 15/01

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step &amp; Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 ☐ M117516

Sikaflex expire date: 15/01

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: M117863

1 of 4 11/07/12

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

8 uloz 1/2

0.00

Memo

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024



220



Packaging

Packaging

Packaging

0.00

Memo

Identify and pack for shipping as per PPPD205-634-041

Location:

PPP Rev:

PAN 70224

0.00

Pup/21 @

230



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

11/7/21

MF  
11-07-21

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

Wednesday, May 25, 2011 10:34:59 AM

Page 1

Work Order ID: 69986

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 5/25/2011


Required Date: 6/10/2011

Start Qty: 1.00

Required Qty: 1.00


Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30  
KJ IPP Rev P 10.02.19  
per PAR09-043 EC verified by:DD  
IPP Rev. O 06.02.28 Added paperwork EC  
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q  
10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4202-1  Spacer	D2579	Manufactured	No			140	Each	443.0000	20	20			
--	-------	--------------	----	--	--	-----	------	----------	----	----	--	--	--


Location	Loc Qty	Loc Code
LG002	443	
66929	106	
67129	196	
67308	1	
67430	140	

B 70761 BE 11/06/23  
20

D2580-1  205 Skidtube bent detail		Manufactured	No			110	Each	2.0000	1	1			
---	--	--------------	----	--	--	-----	------	--------	---	---	--	--	--

Location	Loc Qty	Loc Code
LG B 70785	2	
69212	2	

① 11-6-20

D2576-3  Step (maching detail)		Manufactured	No			140	Each	54.0000	1	1			
---	--	--------------	----	--	--	-----	------	---------	---	---	--	--	--

Location	Loc Qty	Loc Code
LG	54	
66156	54	

BE 11/06/23  
1

W/O:		WORK ORDER CHANGES					
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Start Date: 5/25/2011

Required Date: 6/10/2011

Start Qty: 1.00

Required Qty: 1.00

D2855 Manufactured No

200 Each

54.0000

1

1



Cap



11/07/12

Location

Loc Qty

Loc Code

FP007

54

53791

17

65519

2

65569

35

X1

AN3-5A Purchased No

200 Each

1,158.000

2

2



Bolt



11/07/12

Location

Loc Qty

Loc Code

ST350

1158

115371

358

117423

800

X2

AN960JD10L NAS1149D0332J Purchased No

200 Each

0.0000

2

2



Washer

1117291



11/07/12

ALS7-1032-130 Purchased No

200 Each

1,987.000

50

50



Insert

1117717



11/07/12

Location

Loc Qty

Loc Code

ST281

20

117331

20

ST282

1967

116800

7

117717

1960

X50

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
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Start Date: 5/25/2011

Required Date: 6/10/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No 200 Each 2,467.000 50 50



BOLT



24 11/07/12

Location	Loc Qty	Loc Code
ST350	2467	
117094	955	
117313	212	
117688	800	x50
117795	500	

AN960C10L NAS1149C0332 Purchased No 200 Each 0.0000 50 50



washer

1118179



(x50) 24 11/07/12

D3566-13 Manufactured No 200 Each 46.0000 1 1



Gasket



24 11/07/12

Location	Loc Qty	Loc Code
FP	26	
69281	26	x1
FP014	20	
68341	20	

D3566-5 Manufactured No 200 Each 37.0000 1 1



Gasket



24 11/07/12

Location	Loc Qty	Loc Code
FP015	37	
67589	4	
68961	33	x1

W/O:		WORK ORDER CHANGES					
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Required Date: 6/10/2011

Start Qty: 1.00



Required Qty: 1.00

D3566-1	Manufactured	No	200	Each	53.0000	2	2
							<u>21 4107112</u>
Gasket							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP015	53	
68924	29	1370769
69279	24	<u>x2</u>

D3564-11	Manufactured	No	200	Each	13.0000	1	1
							<u>21 4104112</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP019	13	367591
69119	13	<u>x1</u>

D3564-13	Manufactured	No	200	Each	33.0000	1	1
							<u>24 4107112</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP016	18	
69280	18	<u>x1</u>
FP017	15	
66136	3	
66805	12	

D3564-9	Manufactured	No	200	Each	16.0000	1	1
							<u>24 4107112</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP019	16	1369945
67590	4	<u>x1</u>
68349	12	

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Start Qty: 1.00

Required Qty: 1.00

D3564-5

Manufactured No

200 Each

23.0000

1

1



Wearshoe



201 1107/12

Location

Loc Qty

Loc Code

FG

2

34806

2

B70864

xc

FP019

21

67588

1

68960

20

D2594-3

Manufactured No

200 Each

1,012.000

16

16



O-Ring, 205 Skidtube



201 1107/12

Location

Loc Qty

Loc Code

FP-A

1012

65518

70

66952

942

216

D2594-1

Manufactured No

200 Each

441.0000

16

16



Plug, 205 Skidtube



201 1107/12

Location

Loc Qty

Loc Code

FP-A

441

42807

28

66932

106

67441

7

68943

300

X16

W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**DART****RELEASED**  
07.06.28 #**DEO ATTACHED**

DESIGN #	DRAWN BY RH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

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SUBJECT TO AMENDMENT

WITHOUT NOTICE  
WORK ORDER

NO. 69988

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

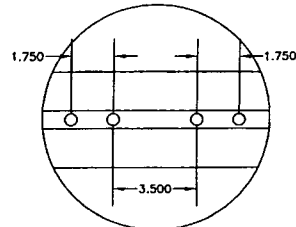
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

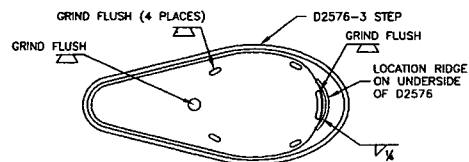
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

• **NOTE:** Date & initial all entries

**DETAIL A**  
SCALE 5:24



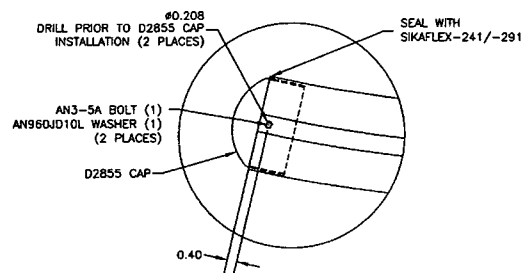
**DETAIL B**  
SCALE 5:24



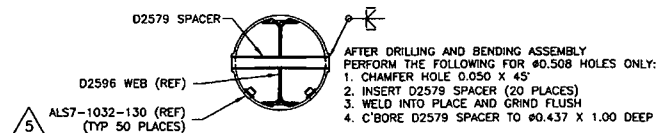
**RELEASED**  
07.06.28

**DEO ATTACHED**

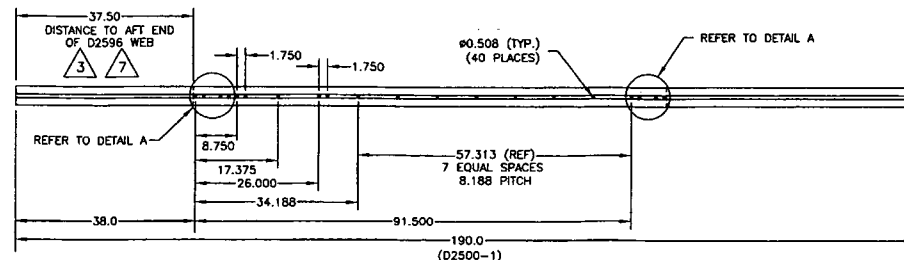
**DETAIL C**  
SCALE 5:24



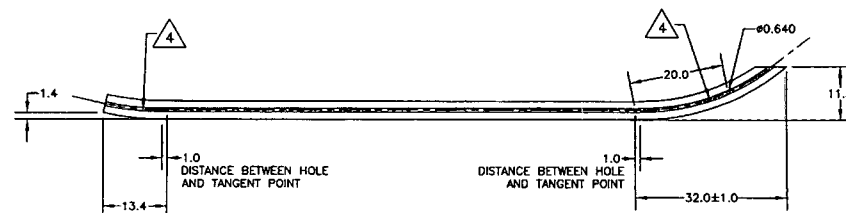
**SECTION D-D**  
SCALE 5:24



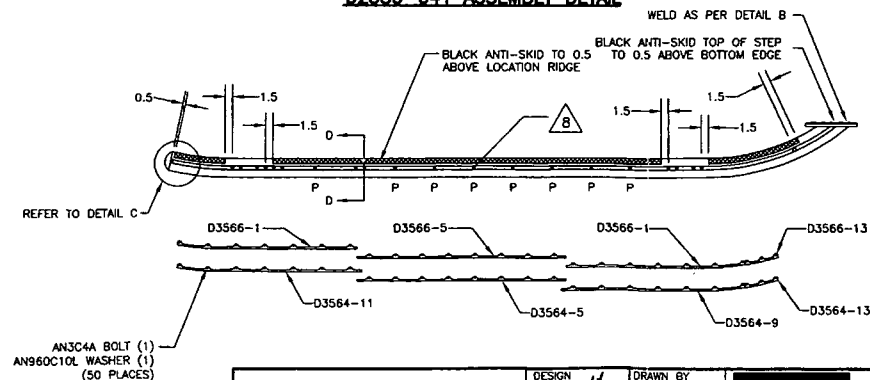
**D2580-1 DRILLING DETAIL**



**D2580-1 BENDING AND CUTTING DETAIL**



**D2580-041 ASSEMBLY DETAIL**



**D2580-041 NOTES**

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

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DESIGN	DRAWN BY	<b>DART</b>	DART AEROSPACE LTD. WARRIMUR, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.	REV. D
DATE		D2580	SHEET 2 OF 3
		TITLE	SCALE
		205 SKIDTUBE ASSEMBLY	1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2580-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>L</i>	MFG. APPR. <i>R</i>	APPROVED <i>MP</i>		DE APPR. <i>MP</i>		
DATE 10.09.22	DATE 10.11.04	DATE 10.11.04	DATE 10/11/04		DATE 10.11.04		

**PURPOSE:**

CHANGE ALL WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

**CHANGE:**

PARTS LIST IS AMENDED AS FOLLOWS:

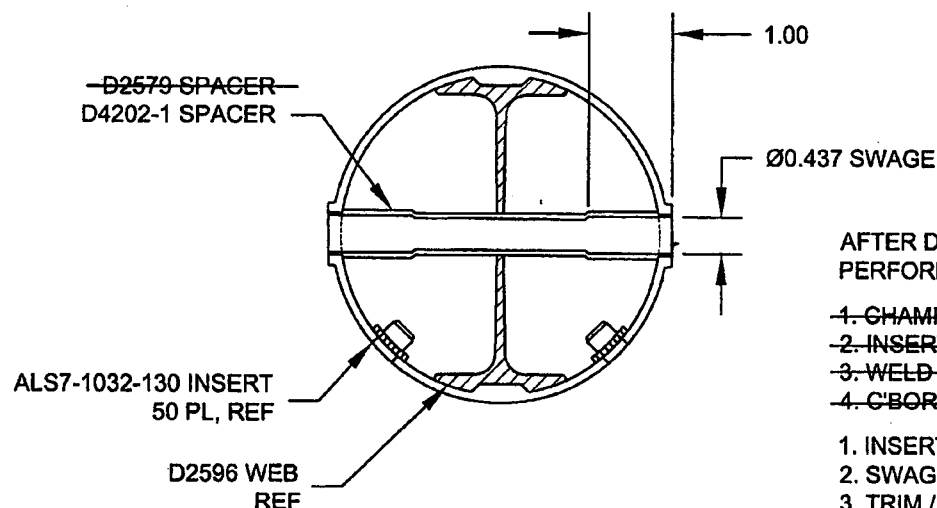
WAS

QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045		
20	24	D2579	CROSS BOLT SPACER

IS

20	24	D4202-1	SPACER
----	----	---------	--------

SECTION D-D & SECTION H-H ARE AMENDED AS FOLLOWS:



AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C-BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 24 PL (-045)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

**SECTION D-D**  
NOT TO SCALE

**SECTION H-H**  
NOT TO SCALE

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**Linda Lacelle**

---

**From:** dshepherd@dartaero.com  
**Sent:** April 18, 2011 11:36 AM  
**To:** Linda Lacelle; Mike Petsche  
**Cc:** Bill Beckett; 'Chris Provencal'; 'Eric Charbonneau'  
**Subject:** Re: Alum. Solution Anneal - swaging

Makes sense to me ... We don't want to get caught short ... Make sure that if we do this, they are identified w the old CHG number.

David

Sent from my BlackBerry device on the Rogers Wireless Network

---

**From:** "Linda Lacelle" <llacelle@dartaero.com>  
**Date:** Mon, 18 Apr 2011 11:21:10 -0400  
**To:** 'Mike Petsche' <mpetsche@dartaero.com>; <dshepherd@dartaero.com>  
**Cc:** 'Bill Beckett' <bbeckett@dartaero.com>; 'Chris Provencal' <cprovencal@dartaero.com>; 'Eric Charbonneau' <echarbonneau@dartaero.com>  
**Subject:** RE: Alum. Solution Anneal - swaging

I am ready to weld some up, I don't want to get into trouble with L/T's on these, any objections??  
LL

**From:** Mike Petsche [mailto:mpetsche@dartaero.com]  
**Sent:** April 18, 2011 10:42 AM  
**To:** 'Linda Lacelle'; dshepherd@dartaero.com  
**Cc:** 'Bill Beckett'; 'Chris Provencal'; 'Eric Charbonneau'  
**Subject:** RE: Alum. Solution Anneal - swaging

Well I'm not sure what to say.

CC7  
CHG ~~CHG~~ D2574

It is my understanding that the swaging will still make sense even with the extra hoops we need to jump through.

If there is still uncertainty on the delivery of the material, we CAN still weld them if we need to.

And while this might be less than "world class", couldn't we take some of our tubing that we have in stock and zap it with the welder to knock down the temper a little? Ground clamp on one end, torch on the other.....BZZZZZZT.

(I'm only sort of joking....because I bet it would work)

---

**From:** Linda Lacelle [mailto:llacelle@dartaero.com]  
**Sent:** April 18, 2011 9:44 AM  
**To:** dshepherd@dartaero.com; 'Mike Petsche'  
**Cc:** Bill Beckett; Chris Provencal; Eric Charbonneau  
**Subject:** RE: Alum. Solution Anneal - swaging  
**Importance:** High

NO. 258

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliot  
Job number: R69986  
Part number: 205-634-041  
Description: 205  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminum  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier Art Evans Date of Test Coupon 11.06.24  
Welder Barclay Elliot Date of Test Coupon 11/06/24

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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